

than they are to appear. By the reduction in photographing the lines are refined and some of the too common shakiness is eliminated. If line shading is employed the lines should not be closer than 35-50 to the inch.

If you can handle a pen so as to produce a smooth, even line, procure Gillott's No. 170 or 290, or, for still finer work, Keuffel & Esser's No. 1459. The sort of ink you use is of the utmost importance. It must make a *perfectly* black line, even the thinnest. Higgins' "American Drawing" or "photo-drawing" inks give such lines. No writing ink will do this.

If not sufficiently skillful with the pen, make drawings with a hard pencil on proper paper, showing all the lines you wish to appear and of the proper relative width.

Please do not make drawings on thin, soft paper, with pale ink, and of the size they are to appear.

All articles requiring illustrations, together with the drawings and all correspondence concerning illustrations, should be addressed to Charles R. Barnes, 712 Langdon street, Madison, Wis.

OPEN LETTERS.

Another "loco" plant.

I have just had handed me by the editor of our *Montana Stock Journal* a root with leaf buds on it, sent by a ranchman from Augusta, Montana, with the declaration that it is called "loco" weed, also "rattle weed," and that it is "killing horses."

The root and plant sent me is undoubtedly *Oxytropis lagopus* Nutt., and I am astounded to hear of its ill-repute at Augusta. I am so much astounded that I think a mistake must have been made by the ranchmen of Augusta in identifying the plant that does the mischief. Have your readers any knowledge of this matter?

F. D. KELSEY.

Helena, Montana.

CURRENT LITERATURE.

Saccardo's *Sylloge Fungorum*.¹

The volume of the *Sylloge* before us covers a specially interesting part of the field. In its preparation Prof. Saccardo has had the assistance of three excellent botanists. The Phalloideæ were taken by Ed. Fischer, and the remainder of the Gasteromycetæ by Dr. DeToni. The Phycomycetæ are made to include the Mucoraceæ, Peronosporaceæ, Saprolegnia-

¹ SACCARDO, P. A.—*Sylloge fungorum omnium hucusque cognitorum*; Vol. VII. Pars I. Gasteromycetæ, Phycomycetæ et Myxomycetæ, digesserunt A. N. Berlese, J. B. DeToni et E. Fischer. 498, XXX pp., roy. 8 vo. Patavii, 1888.—33 francs.

ceæ, Entomophthoraceæ, Chytridiaceæ and Protomycetaceæ, and have been elaborated by Drs. Berlese and DeToni. The Myxomycetæ were also done by Dr. Berlese.

Like the preliminary numbers of the series, this volume includes descriptions of all species of the groups named, so far as known to the authors. The compilation will be of the greatest service to the student, and enable him to do more accurate work with less loss of time than was possible heretofore.

Of course, in groups receiving so much attention as these do at present, the volume is scarcely published before descriptions of new species and revisions of genera call for addenda. It is to be regretted that the fine paper by Roland Thaxter, on the Entomophthoræ of the United States, containing nearly a dozen and a half new species, did not reach the authors in time to be included.

Volume VI, on the Hymenomycetæ, although it should have preceded the present one, has been delayed, but is expected to be out soon. The second part of Volume VII, just issued, will be reviewed next month; it embraces the Ustilagineæ and Uredineæ. The series is to be concluded with volume eight.

Minor Notices.

IN SOME recent notes² on vegetable pathology, Dr. F. Cavarra describes *Dendrophoma Marconii*, which infests the stalks of *Cannabis sativa*; *Pseudopeziza Trifolii*, that attacks *Trifolium repens*, *Medicago sativa*, etc.; *Pleospora Trifolii*, also found on *Trifolium repens*; *Botrytis parasitica*, which seriously attacks tulips; *Basiaschum Eriobothryæ*, found on leaves of *Eriobothrum Japonica*; and *Pestalozzia Banksiana*, on leaves of *Banksia robus*. All, excepting *Pseudopeziza Trifolii*, are recorded as new species, while *Basiaschum Eriobothryæ* constitutes a new genus.

IN a reprint entitled "Botanical Notes,"³ Miss Mary K. Curran gives much interesting information concerning the Pacific flora. It is a wonderful, and in many respects a very perplexing flora, and only an abundance of material and patient study can settle the numerous questions that arise. In the first part of the paper before us a list of plants from Baja California, collected by Walter E. Bryant, is given. Among them is a new species of *Gongylocarpus*, which demands a modification of the generic characters. The second part gives a synopsis of the *Papavereæ* of the Pacific coast. *Dendromecon* is placed in *Hunnemannia*, and *Platystigma* is merged with *Platystemon*. The numerous species of *Esch-*

²CAVARRA, DR. FRIDIANO.—Appunti di Patologia Vegetale; alcuni funghi parassiti di piante coltivate. Extract from the Istituto Botanico della R. Università di Pavia. Large 8vo. 14 pp. 1 plate. Milan, 1888.

³CURRAN, MARY K.—Botanical Notes. Reprint from Calif. Acad. 2d Ser. Vol. 1., pp. 227-269. Issued Dec. 13, 1888.

scholtzia described by Professor Greene are all reduced to *E. Californica*, for which full reasons are given. The third part is entitled "Miscellaneous Studies," chief among which is the discussion of *Mimulus*. The proposal to divide the genus by restoring *Diplacus* and *Eunanus* to generic rank is not approved, and the observations given, on the whole, confirm Dr. Gray's conclusions, although they somewhat modify his sections.

NOTES AND NEWS.

W. L. GOODWIN, of Queen's University, Kingston, records (*Can. Record Sci.*, Oct.) the survival of a pine tree after girdling.

GARDEN AND FOREST has begun an interesting series of articles upon the elements of vegetable physiology, by Dr. George L. Goodale of Harvard University.

DR. JULIUS VON SACHS, the well-known professor of botany and director of the botanic garden at Würzburg, has declined a call to the University at Munich.

DR. DAVID DIETRICH, author of the extensive "Forst-Flora" and curator of the herbarium of the University of Jena, died on the 23d of October, in the 90th year of his age.

THE LAST ISSUED part of the *Journal* of the Linnean Society continues Forbes' enumeration of the plants of the Chinese region. The list has just reached the Compositæ. Many new species are described.

IN REVIEWING Wigand's *Das Protoplasma als Fermentorganismus*, Dr. Goodale (*Am. Jour.* Jan.) refers to an expression the author once used in conversation, "my whole life has revolved around Tannin, Darwinism and Bacteria."

IN THE *Journal de Botanique* (Dec. 16) Van Tieghem writes of hydroleucites and aleurone grains, and Lagerheim (of Stockholm) describes (with colored plates) a new genus of Chytridiaceæ, parasitic upon the uredospores of certain Uredinææ.

MR. ARTHUR HOLLICK records (*Bull. Torr. Club*, Dec.) the discovery of *Quercus heterophylla*, the famous "Bartram Oak," at Tottenville, Staten Island, N. Y., and in the same connection gives an interesting review of the literature of this oak and also of *Q. Rudkini* Britton.

AN ABNORMAL *Rudbeckia hirta* is reported by O. A. Farwell, of Phoenix, Mich., in which there are nine small heads sessile in the axils of the involucre scales of an ordinary head. They are 3 to 20-flowered, with 2 to 6 rays, and have an involucre of 3 to 8 equal scales in a single row.

DR. BESSEY reports (*Am. Nat.* Dec.) that the notable weeds of the Nebraska plains are as follows, supposably in the order of their unpopularity: *Cenchrus tribuloides*, *Solanum rostratum*, *Helianthus annuus*, *Hordeum jubatum*, and the two tumble-weeds, *Amarantus albus* and *Cyclo-loma platyphyllum*.

THE GAZETTE discovers that it owes its readers an apology for the miserable wrapping of the December number. The thing was so unusual that it excited remark, and we do not wonder. Were it possible we would duplicate the abused numbers. It was simply one of those mistakes for which no one seems to be blameworthy, but which will not occur again.